

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
DISTRICT 8

REPORT OF INVESTIGATION
(Underground Coal Mine)
FATAL FALL OF RIB

Galatia Mine No. 56-1 (I.D.11-02752)
Kerr-McGee Coal Corporation
Harrisburg, Saline County, Illinois

March 23, 1997

by

Michael D. Rennie
Coal Mine Safety and Health Inspector

and

Gale N. Warren
Coal Mine Safety and Health Inspector

Originating Office-Mine Safety and Health Administration
Post Office Box 418, 501 Busseron Street, Vincennes, Indiana 47591
James K. Oakes, District Manager

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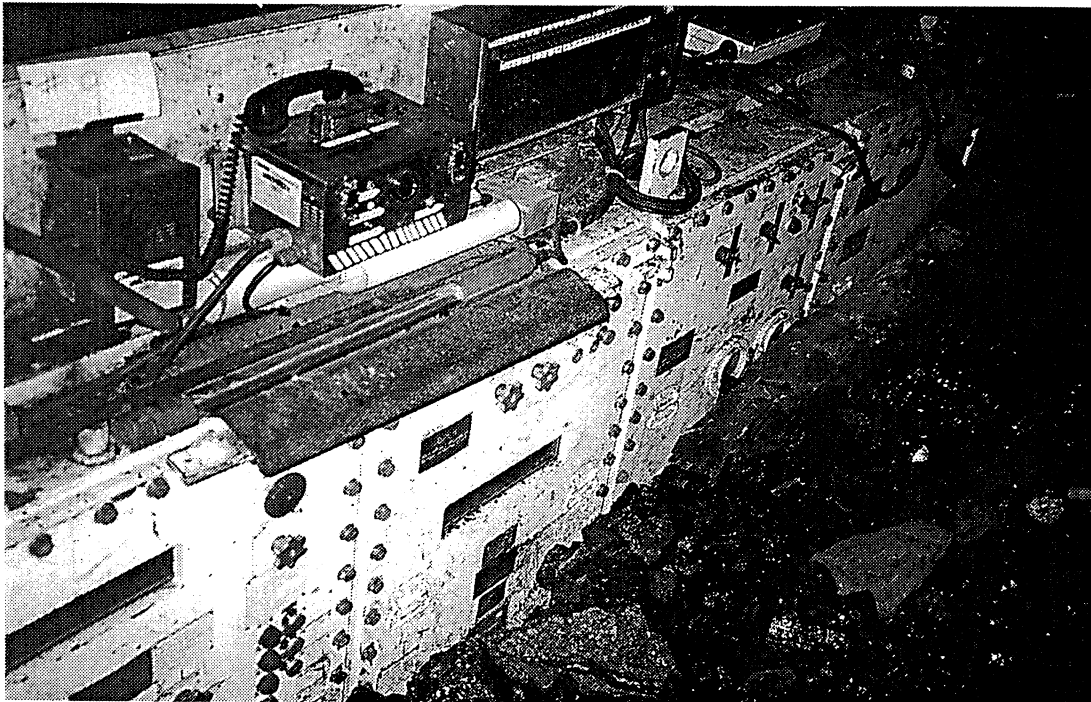
Close-Up View of Kerr-McGee Accident Scene

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Location of Victim, Talking on Phone at Master Controller

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Authority—This report is based on an investigation made pursuant to the Federal Mine Safety and Health Act of 1977, Public Law 91-173, as amended by Public Law 95-164.

Section A—Identification Data

1. Title of investigation: <u>Fatal Fall of Rib</u>	2. Date MSHA investigation started: <u>March 23, 1997</u>
3. Report release date: <u>August 13, 1997</u>	4. Mine: <u>Galatia Mine No. 56-1</u>
5. Mine ID number: <u>11-02752</u>	6. Company: <u>Kerr-McGee Coal Corporation</u>
7. Town, County, State: <u>Harrisburg, Saline County, Illinois</u>	8. Author(s): <u>Michael D. Rennie, Gale N. Warren</u>

Section B—Mine Information

9. Daily production: <u>18,415, tons</u>	10. Surface employment: <u>159</u>
11. Underground employment: <u>495</u>	12. Name of coalbed: <u>Harrisburg No. 5</u>
13. Thickness of coalbed: <u>8 feet</u>	

Section C—Last Quarter Injury Frequency Rate (HSAC) for:

14. Industry: <u>8.83</u>	15. This operation: <u>6.06</u>
16. Training program approved: <u>Yes</u>	17. Mine Profile Rating: <u>n/a</u>

Section D—Originating Office

18. Mine Safety and Health Administration Coal Mine Health and Safety District No. : <u>8</u>	Address: <u>PO Box 370, 302 West Main, Suite 1A Benton, Illinois 62812</u>
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Section E—Abstract

On March 23, 1997, at approximately 9:15 a.m., a Fatal Fall of Rib Accident occurred on the Galatia North 6th East Longwall Working Section, MMU 056. Stephanie Renee Council was performing the assigned work tasks of longwall stage loader operator. Council was helping James R. Henshaw, Laborer, install cribbing in the belt conveyor entry at Survey Station 1475 East. Henshaw noticed Council walk away toward the stage loader, but did not know which direction she had turned. A short time later, Henshaw noticed the stage loader had stopped. Upon investigation, he looked inby toward the face, then looked outby and noticed Council beneath a collapsed north rib, pinned against the stage loader master controller.

Section F—Mine Organization

Company officials:	Name	Address
19. President:	<u>William D. Hake</u>	<u>PO Box 25861 Oklahoma City, Oklahoma 73125</u>
20. Superintendent:	<u>R. Michael Davey</u>	<u>Post Office Box 727 Harrisburg, Illinois 62946</u>
21. Safety Director:	<u>Harold E. Odle</u>	<u>Post Office Box 727 Harrisburg, Illinois 62946</u>
22. Principle officer—H&S:	<u>Harold E. Odle</u>	<u>Post Office Box 727 Harrisburg, Illinois 62946</u>
23. Labor Organization:	<u>None</u>	
24. Chairman—H&S Committee:		

General Information

The Galatia Mine No. 56-1, located approximately 10 miles west of Harrisburg, Saline County, Illinois, is operated by the Kerr-McGee Coal Corporation, a subsidiary of Kerr-McGee Corporation. The mine employs a total of 495 miners, with 159 employees located on the surface. The mine is opened into the Harrisburg No. 5 Coal Seam by two shafts and one slope. The mine produces an average of 18,415 tons of coal per day from four continuous miner sections and two longwall working sections. Coal is removed from the mine by diesel ramcars and longwall face conveyors, which discharge onto a series of conveyor belts to the slope bottom. The coal is then conveyed to the surface by the slope belt to the raw coal silos, and conveyed to the preparation plant for processing. Kerr-McGee then ships the processed coal by rail to its customers.

The overburden is a maximum of 750 feet at the Galatia North Portal. The immediate roof consists of approximately 70 feet of Dykersburg shale. Chain pillars for the longwall panels are driven on maximum of 125 x 125-foot centers to a minimum of 100 x 100-foot centers. The three heading longwall development entries and crosscuts are driven 20 feet wide and the roof is supported with six-foot long, double lock roof bolts on 5-foot spacings. Additional supports are placed in the headgate (belt entry), these are three-piece truss systems placed on 4 to 4.5-foot spacings. The angle bolts are installed on development and the cross members are installed 100 feet outby the longwall face as it is being retreated. Wooden cribs are installed according to the Approved Roof Control Plan, parallel to the belt entry and across the opening of the crosscuts as the panel is mined. Additional cribs are placed on the corners of chain pillars nearest the belt entry.

Principal officials of Galatia No. 56-1 mine at the time of the accident were:

Steve Rowland	General Manager
Larry W. Wilson	General Underground Superintendent
R. Michael Davey	Mine Superintendent
Harold E. Odle	Manager Health and Safety

The last MSHA Safety and Health Inspection (AAA) was completed on February 1, 1997. The current MSHA Safety and Health inspection (AAA) began on February 3, 1997, and was ongoing at the time of the accident.

Description of Accident

On March 23, 1997, at approximately 7:00 a.m., the "B" crew, twelve-hour shift began their work duties. The crew under the supervision of Robert Huff, Longwall Foreman, traveled to the Galatia North 6th East Longwall Working Section to prepare for the day's activities of operating the longwall. After arriving at the working section, Huff assigned

the work tasks for the day. Stephanie Renee Council (victim) was assigned the regular job task of longwall stage loader operator, and to assist James R. Henshaw, a classified general inside laborer, in building wooden cribs around the stage loader area. The other workers were assigned regular job duties along the longwall working face. Huff walked and examined along the longwall face to the tailgate area, and then called Council to start the stage loader and panline.

At approximately 8:20 a.m., Larry J. Wilson, Preshift Examiner, drove a mantrip into the unit to pick up Bill Hughs, Preshift Examiner, who was walking the 6th East belt conveyor. Wilson stated that he observed Council and Henshaw breaking a chunk of coal at the stage loader, and then throwing the coal in the stage loader. At that time, Council stated she was hot and wiped her brow. A short time later, Wilson met up with Hughs, left the unit and did not have any further contact until they were told to bring the ambulance to the Galatia North 6th East Longwall Section.

Henshaw, who was assigned to install cribs and work with Council, stated that Council used her channel lock pliers to help break a steel band on a bundle of crib material in the crosscut. They began building a crib just inby the master controller, in the 6th East Headgate Entry at the crosscut at Survey Station 1475 East. Henshaw stated that while he was retrieving more crib material from the crosscut, Council walked out of the crosscut toward the stage loader, but he did not know which way she had turned. A short time later, Henshaw noticed that the stage loader had stopped and he went to investigate. Upon reaching the stage loader, Henshaw looked toward the face area, noticed nothing wrong and tried to reset the emulsion computer. When the emulsion computer would not reset, Henshaw looked outby along the North side of the master controller and saw Council covered by a collapsed coal and rock rib. He immediately climbed on top of the controller and could see only part of the victim's head, hard hat, and left hand. Henshaw was unable to get a response from Council, and called for help from the people on the longwall face.

Mike Jeter, Longwall Shield Operator, was the first to arrive and immediately saw the seriousness of the situation. The rest of the crew, consisting of Les Sturgill, Edgar Bledsoe, Alan Harris, Longwall Shearer Operators, Fred Plumlee, Longwall Repairman, and Robert Huff arrived a short time later and began recovery operations. Huff instructed Henshaw to retrieve the stretcher and first aid supplies, and sent Plumlee to call for an ambulance and alert the mine manager and mine control of the serious accident. The crew continued extrication procedures by breaking the massive rock with sledgehammers and using a come-a-long to pull a portion of the rock away from the victim. Huff stated that he attempted to give mouth to mouth resuscitation, but was unable to reach the victim due to the amount of material on her body and the close proximity of the controller. He tried on several occasions to find a pulse, but could find no signs of life. Huff stated that after the rock was removed from Council, she still could not be moved due to being covered from the waist down by more material. After approximately 30 minutes, Council was uncovered, removed and placed on a stretcher. Because of the extent of her injuries, the victim was covered and placed on the unit mantrip for the ride out of the mine. William Penrod, Mine Manager, who had been

alerted of the accident, met the mantrip five crosscuts from the accident scene. Penrod, an Emergency Medical Technician, immediately got onto the mantrip and began assessing the extent of Council's injuries. Penrod stated that he continued to check for vital signs all the way out of the mine, even stopping the mantrip on two occasions to check for faint signs of life, with none being detected.

After arriving at the surface of the Galatia North Shaft, the Saline County Ambulance Service Advanced Life Support Unit took over care. Mark Elder, Paramedic, and Bill Culkin, Emergency Medical Technician, immediately began assessing the situation. Elder stated that as soon as he saw the type of injury to the victim, he decided it would be best to treat the victim while en route to the hospital. While en route, Paramedic Doris Holzinger met the ambulance at the junction of State Route 34 and Raleigh, Illinois, and care and transportation were resumed. Life support monitors were used and medicines were administered during transportation to the hospital. After arriving at the Harrisburg Hospital, the attending physician, Dr. Alexander, pronounced Council dead and then contacted the coroner.

Physical Factors

The investigation revealed the following factors relevant to the occurrence:

1. The Galatia North 6th East Longwall Section was retreat mining at the time of the accident.
2. The coal seam averages 8 feet in height in the Galatia North area.
3. The belt entry mine floor had been graded approximately one foot lower than the surrounding area to aid in leveling the belt conveyor.
4. The mine roof in the accident area (Headgate Belt Entry) was supported with 6-foot double lock roof bolts, and fully truss bolted with 3/4-inch truss bolts on 4 to 4 1/2-foot centers.
5. Prior to the accident, the longwall section was forced to slow down because the longwall was mining up a hill. This would cause additional pressure to be applied to the equipment from the uneven coal seam.
6. Some rib spalling and rashing were present, but although additional support was installed, no unusual conditions were observed. The closer the abutment pressures are to the longwall face, the greater the spalling.
7. Examinations by unit personnel and by examiners did not detect any unusual conditions in the ribs. However, because loads cannot transfer through the void of the crosscut, the existence of a crosscut near the accident area increased the pressures on the blocks and their ribs.

8. The victim had a total of eleven years mining experience, all at this mine.
9. The victim was classified as a Miner 1 (a skilled employee) and was assigned as the longwall stage loader operator.
10. The victim and one other worker were performing routine work in and around the stage loader, and were building a wooden crib just inby the accident scene.
11. The victim was working on the "B" crews' twelve-hour crew, supervised by William Penrod, Mine Manager, and Robert Huff, Longwall Foreman.


Conclusion

The accident occurred because the ribs in the area where the stage loader operator works around the 6th East Longwall Stage Loader were not supported or otherwise controlled to protect the stage loader operator. A rib collapsed, crushing the stage loader operator against the longwall stage loader master controller.

Enforcement Actions


1. A 103(k) Order No. 3840476 was issued on March 23, 1997, to ensure the safety of all workers on the Galatia North 6th East Longwall working section.
2. A 104 (a) Citation No. 4269532 was issued for a violation of 30 CFR Section 75.202 (a). The roof, face, and ribs of areas where persons work or travel will be supported or otherwise controlled to protect persons from the hazards related to falls of the roof, face or ribs, and coal or rock bursts.

Respectfully submitted by:



Gale N. Warren
Coal Mine Safety and Health Inspector

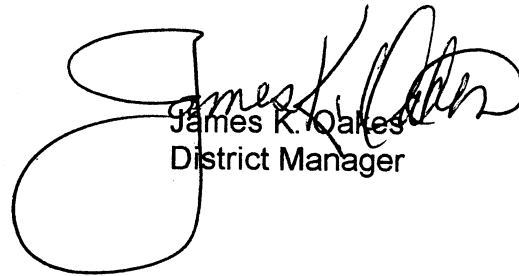
Approved by:



David L. Whitcomb
Subdistrict Manager



Michael D. Rennie
Coal Mine Safety and Health Inspector



James K. Oakes
District Manager

Appendix

List of persons furnishing information and/or present during the investigation:

Kerr-McGee Coal Corporation - Officials

Steve Rowland	General Manager
R. Michael Davey	Superintendent
Larry W. Wilson	General Superintendent
Harold Odle	Manager Safety and Health
Keith Roberts	Safety Engineer
Chad Barras	Safety Engineer
Pete Rone	Safety Engineer
Kerry Durfee	Safety Engineer
William Penrod	Mine Manager(B crew, 12 hour shift)
Robert Huff	Longwall Foreman

Kerr-McGee Coal Corporation - Employees

Michael Jeter	Longwall Shield Operator
James R. Henshaw	General Inside Laborer(Longwall)
Bill Hughs	Examiner
Larry J. Wilson	Examiner
Fred Plumlee	Longwall Repairman

Saline County - Officials

Kenneth Sloan	Coroner
Mark Elder	Paramedic/Saline County Ambulance
Doris Holzinger	Paramedic/Saline County Ambulance

Illinois Department of Natural Resources Department of Mines and Minerals

Sam Vancil	Deputy Director
Art Rice	Administrative Assistant
Don McBride	Division Manager
Tom Patterson	Supervisor of Inspections
Roy Greer	Inspector
Mary Bauer	Executive Secretary

Mine Safety and Health Administration

Steven R. Kattenbraker

Supervisory Coal Mine Safety and
Health Inspector

Troy Bullard

Supervisory Coal Mine Safety and
Health Inspector

Tom Buelow

Supervisory Mining Engineer

Jimmy Mike Conley

Special Investigator

Gale N. Warren

Coal Mine Safety and Health Inspector
(Roof Control Specialist)

Gary O. McDaniel

Coal Mine Safety and Health Inspector

Michael D. Rennie

Coal Mine Safety and Health Inspector

M. Terry Hoch

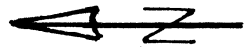
Chief, Roof Control Division

Michael A. Evanto

Technical Support

Geologist, Roof Control Division

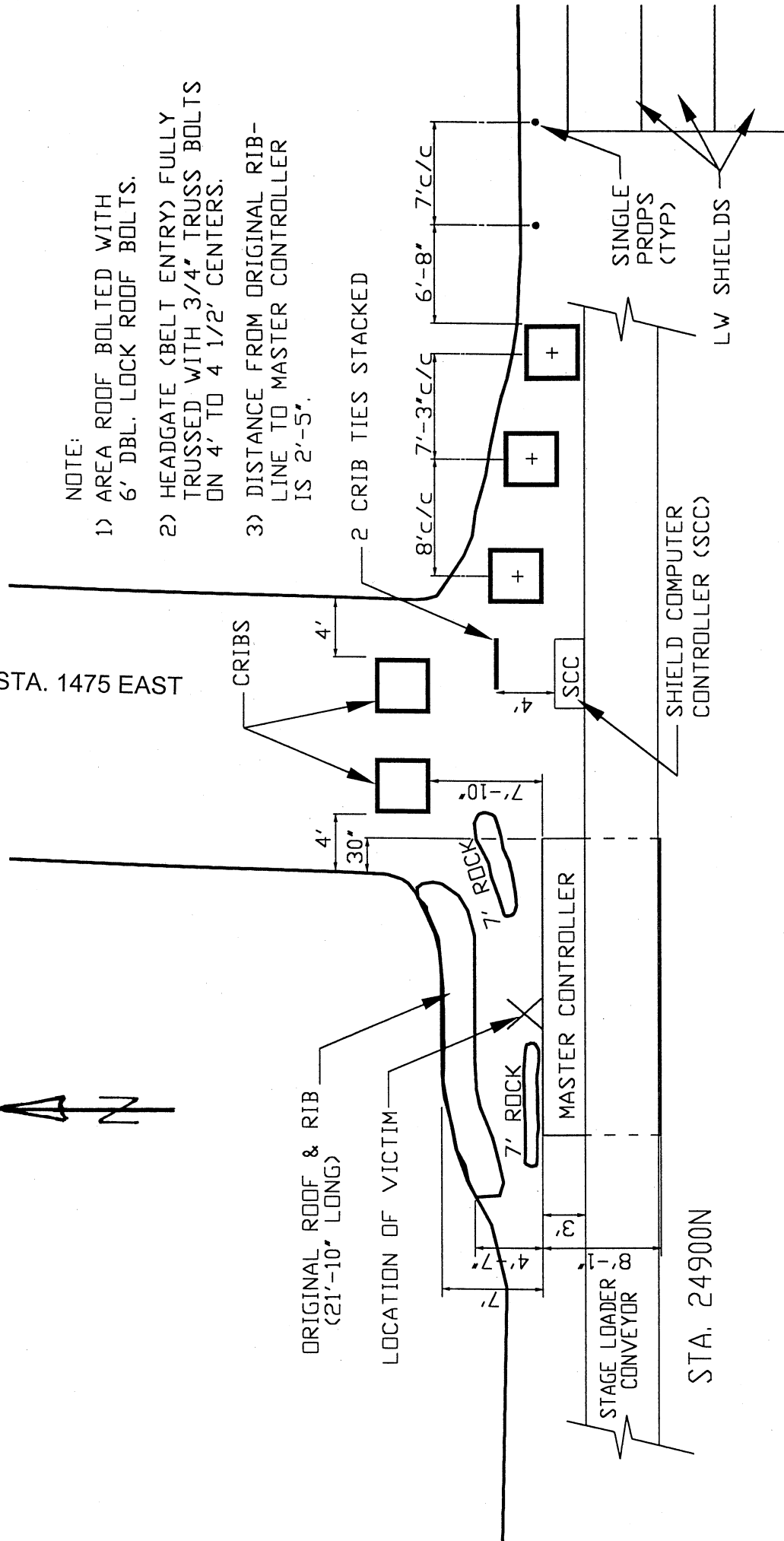
Technical Support



STA. 1475 EAST

NOTE:

- 1) AREA ROOF BOLTED WITH 6' DBL. LOCK ROOF BOLTS.
- 2) HEADGATE (BELT ENTRY) FULLY TRUSSED WITH 3/4" TRUSS BOLTS ON 4' TO 4 1/2' CENTERS.
- 3) DISTANCE FROM ORIGINAL RIB-LINE TO MASTER CONTROLLER IS 2'-5".



FATAL FALL OF RIB

Galatia Mine No. 56-1 (I.D. 11-02752)
 Kerr-McGee Coal Corporation
 Harrisburg, Saline County, Illinois

March 23, 1997

SCALE: 1" = 10'



Section A—Victim Data

1. Name		2. Sex	3. Social Security Number
Stephanie Renee Council		<input type="checkbox"/> Male <input checked="" type="checkbox"/> Female	7043
4. Age	5. Job Classification		
32	Miner I (State Loader Operator)		
6. Experience at this Classification		7. Total Mining Experience	
1 year 5 weeks 6 days		10 years, 10 months, 15 days	
8. What activity was being performed at time of accident?	9. Victim's Experience at this Activity	10. Was victim trained in this task?	
Longwall stage loader operator	1 year 5 weeks 6 days	Yes	

Section B—Victim Data for Health and Safety Courses/Training Received (related to accident)	Date Received
11. Annual Refresher Training	2-26-97
12. (Task) Stage Loader - Mono Rail	2-10-96
13. Single prop	3-6-96
14. Dowty shields and face conveyor	2-10-96

Section C—Supervisor Data (supervisor of victim)

15. Name	16. Certified
Robert Huff	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
17. Experience as Supervisor	18. Total Mining Experience
11 yrs 7 mos 22 days	12 yrs 9 mos 5 days

Section D—Supervisor Data for Health and Safety Courses/Training Received (related to accident)	Date Received
19. Annual Refresher Training	1-19-97
20.	
21.	
22.	

23. When was the supervisor last present at accident scene prior to the accident? 3-23-97 7:15 a.m. First part of shift.	24. What did he do when he was there? Talked with victim about slowing longwall down due to spillage at the belt tail.
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25. When was he last in contact with the victim? 3-23-97	26. Did he issue instructions relative to the accident? No. Had victim building crib inby accident scene.
27. Was he aware of or did he express an awareness of any unsafe practice or condition?	